

Hagan-Lafitte Drainage Upgrades and Green Infrastructure Project

Design Review Committee
December 13, 2016



Presentation Agenda

1. Project Overview and Progress
2. Grey Infrastructure
3. Green Infrastructure (GI)
4. Easton Park Underground Detention
5. Results
6. Discussion

Project Overview

Project Background

- Purpose – reduce flooding in Hagan-Lafitte neighborhood to meet a 10-year 24-hour rainfall event
- HMGP funded \$5.35 Million for construction
- BCA – 1.67
- 60% Submittal including survey and geotechnical testing is complete

Project Progress

- 60% Submittal including survey and geotechnical testing is complete
- Public Meeting held 11/29/16
- SWBNO – Meeting held on 11/22/16
- NORDC and CIP– Meeting held on 11/22/16
- Parks and Parkways- Received Comments

Project Location



Project Area

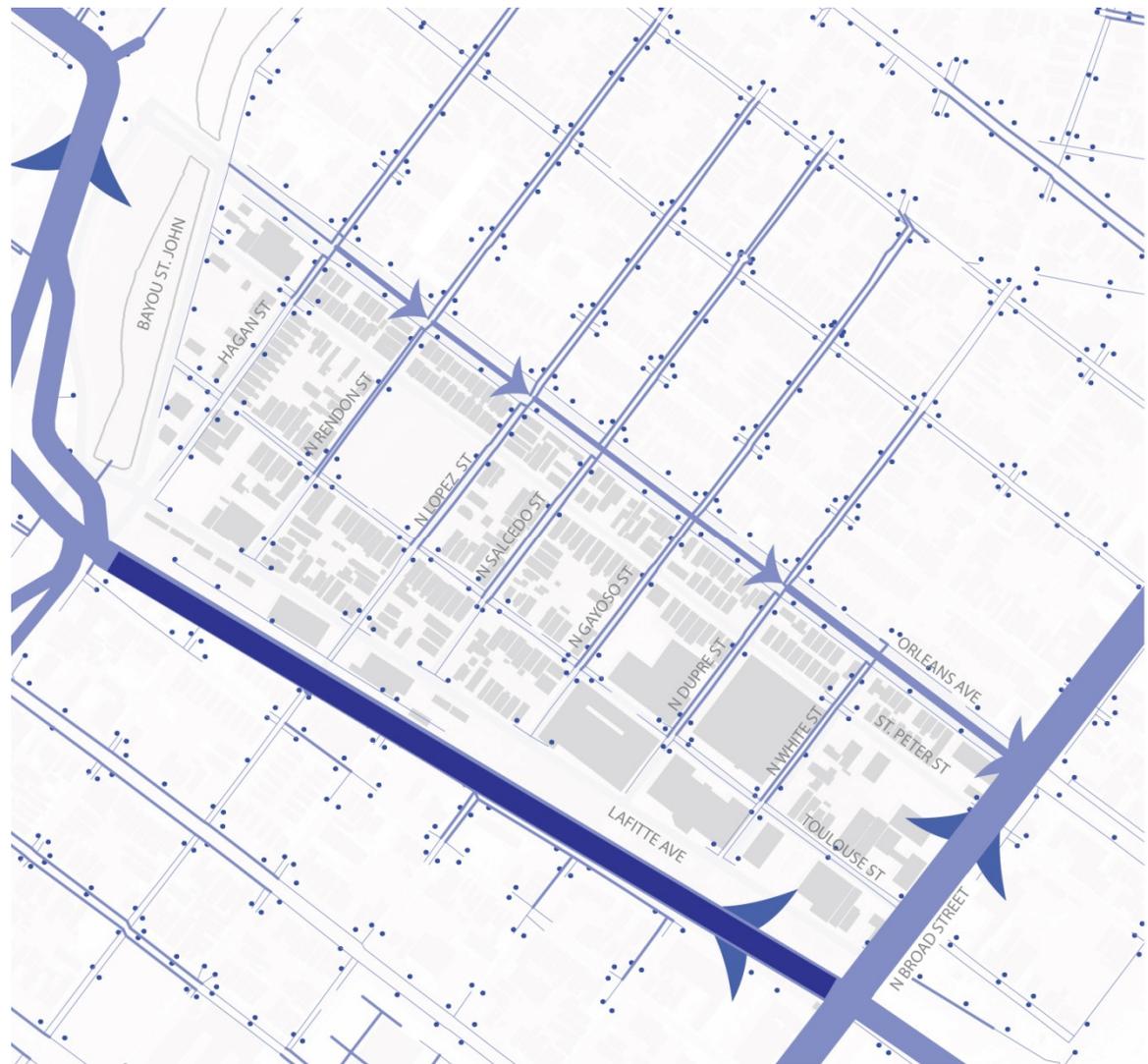


Project Goals –Neighborhood Resiliency

- Increase drainage capacity
- Redirect storm flow away from Orleans Ave. and toward St. Louis Canal
- Utilize GI to slow, retain, and absorb storm water
- Increase pervious area
- Recharge aquifer
- Introduce strategic on-site storage

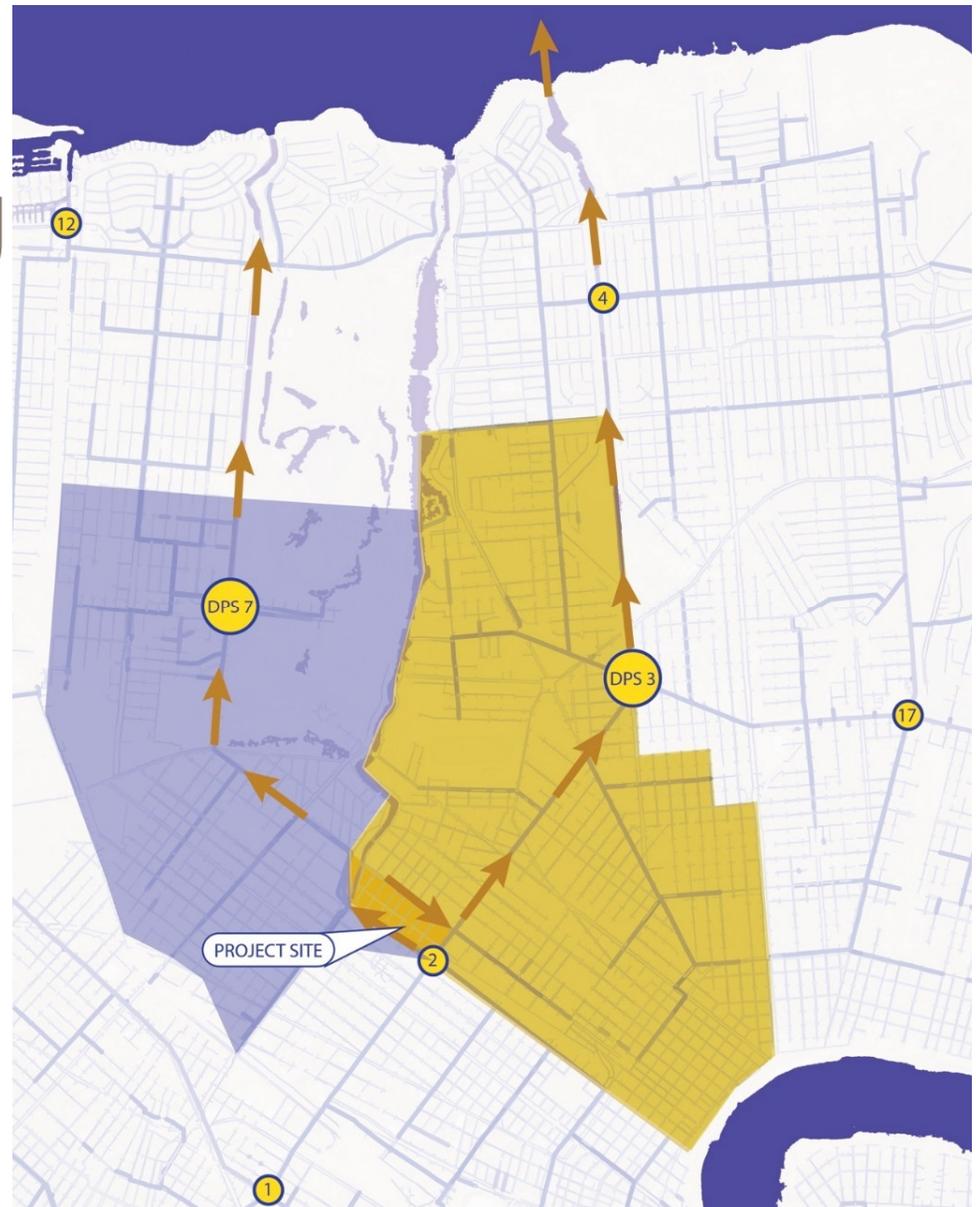
Existing Drainage Conditions

- **Site currently drains through underground pipe network to box culvert in Orleans Avenue and then to box culvert in N. Broad Street.**



Existing Pump Station Routing

- Site is currently at the upstream end of DPS 3 drainage basin

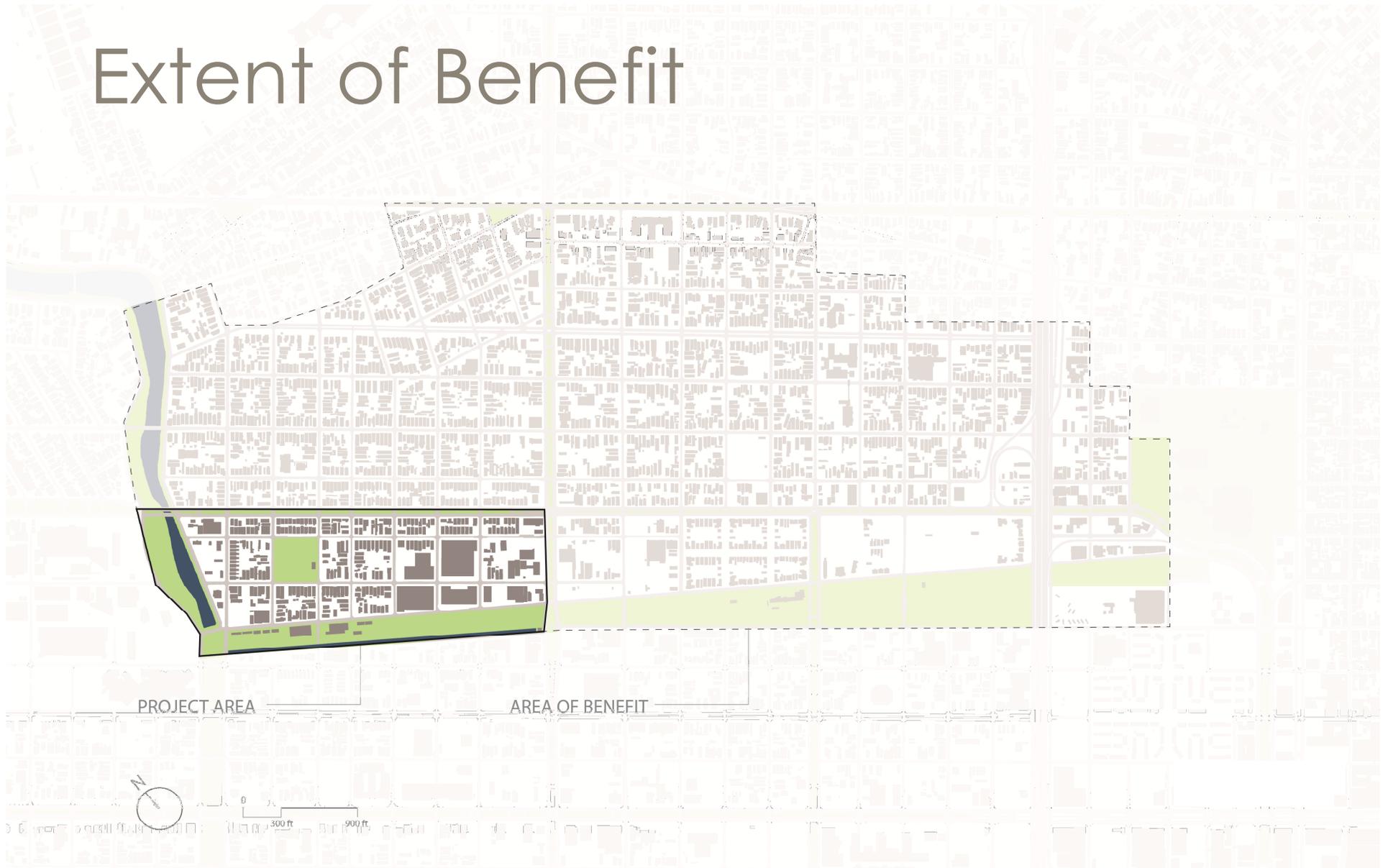


Proposed Solutions

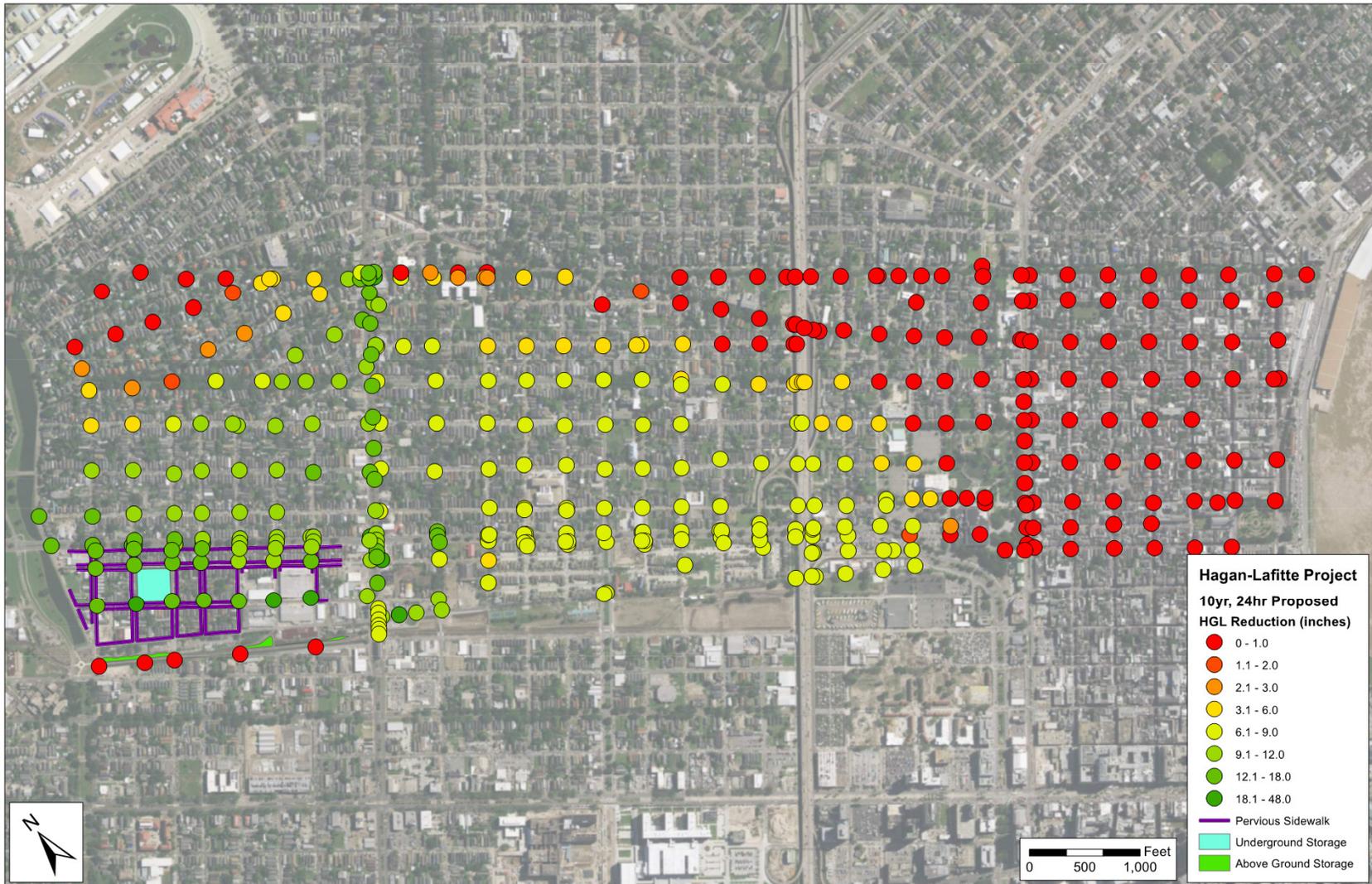
- Mix of green and gray infrastructure
- Reduce flooding during the 10-year, 24-hour storm event
- Supply flow to bioswales in Lafitte Greenway
- Benefits areas beyond project area



Extent of Benefit



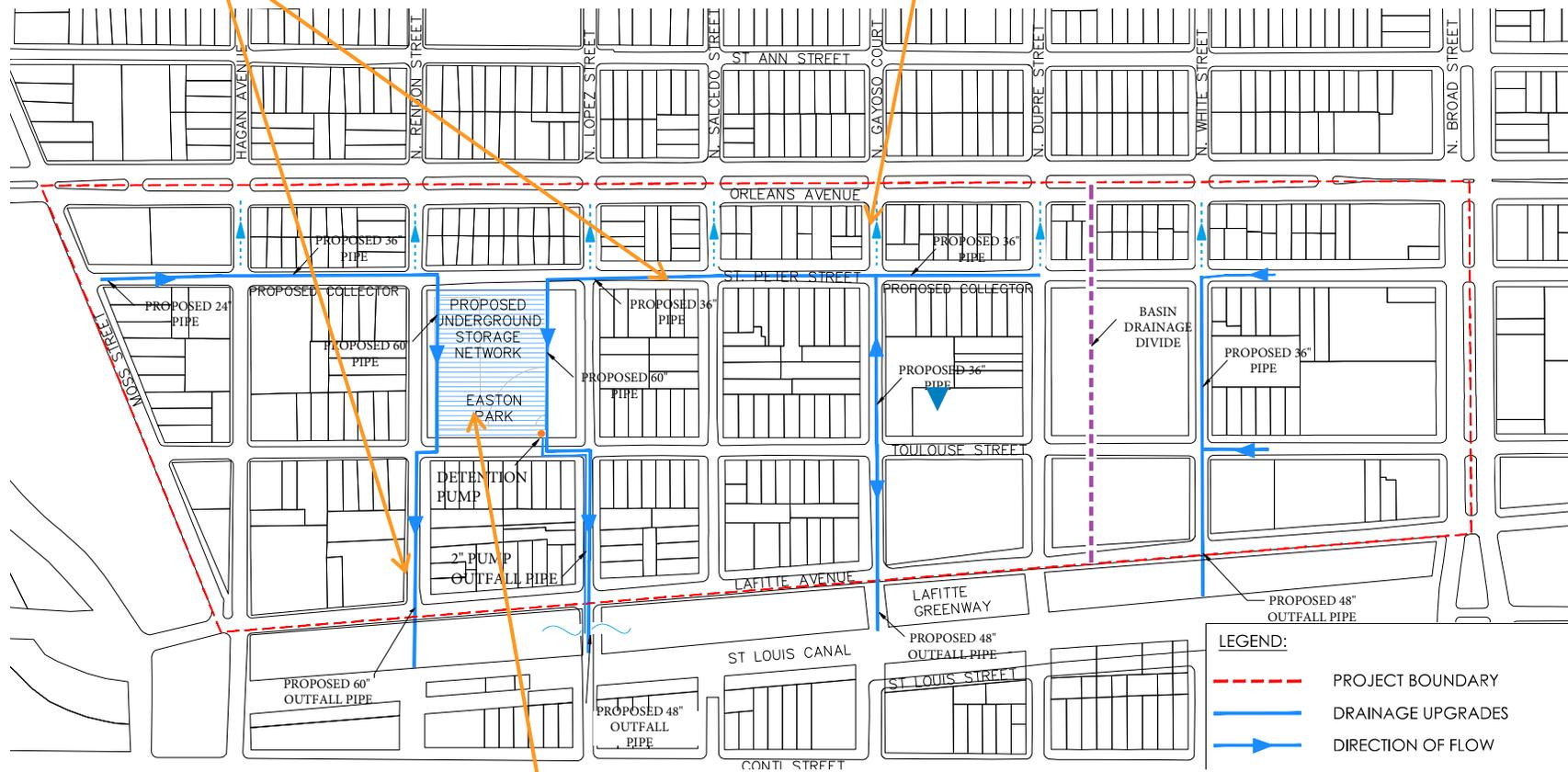
Extent of Benefit



Grey Infrastructure

Redirect flows to St. Peter Street Collector and then to multiple lateral outfalls into St. Louis Canal/DPS 7

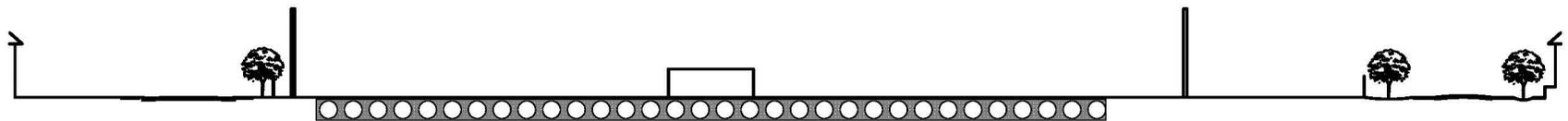
Disconnect neighborhood from Orleans Ave box culvert/DPS 3

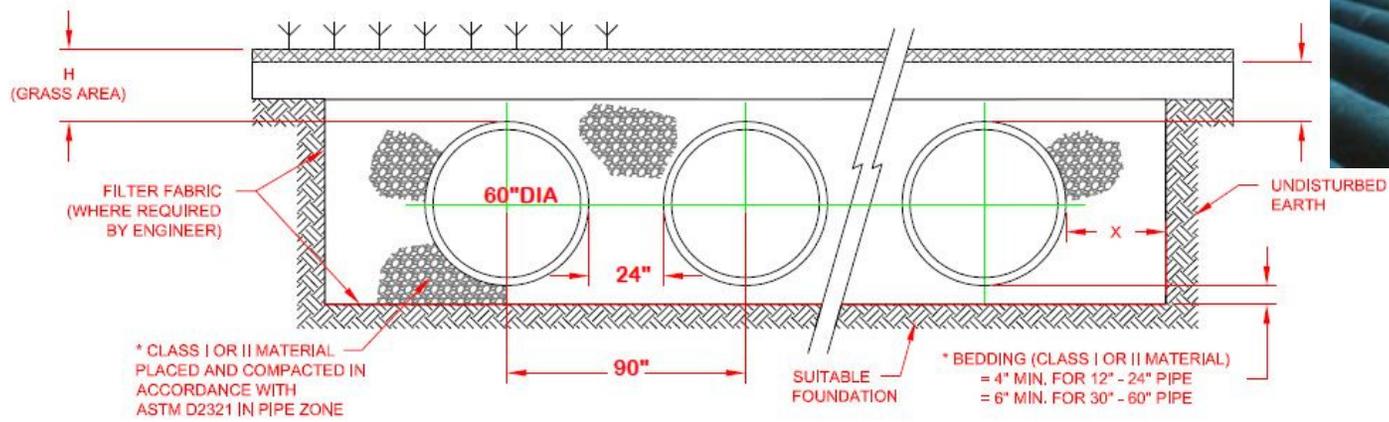
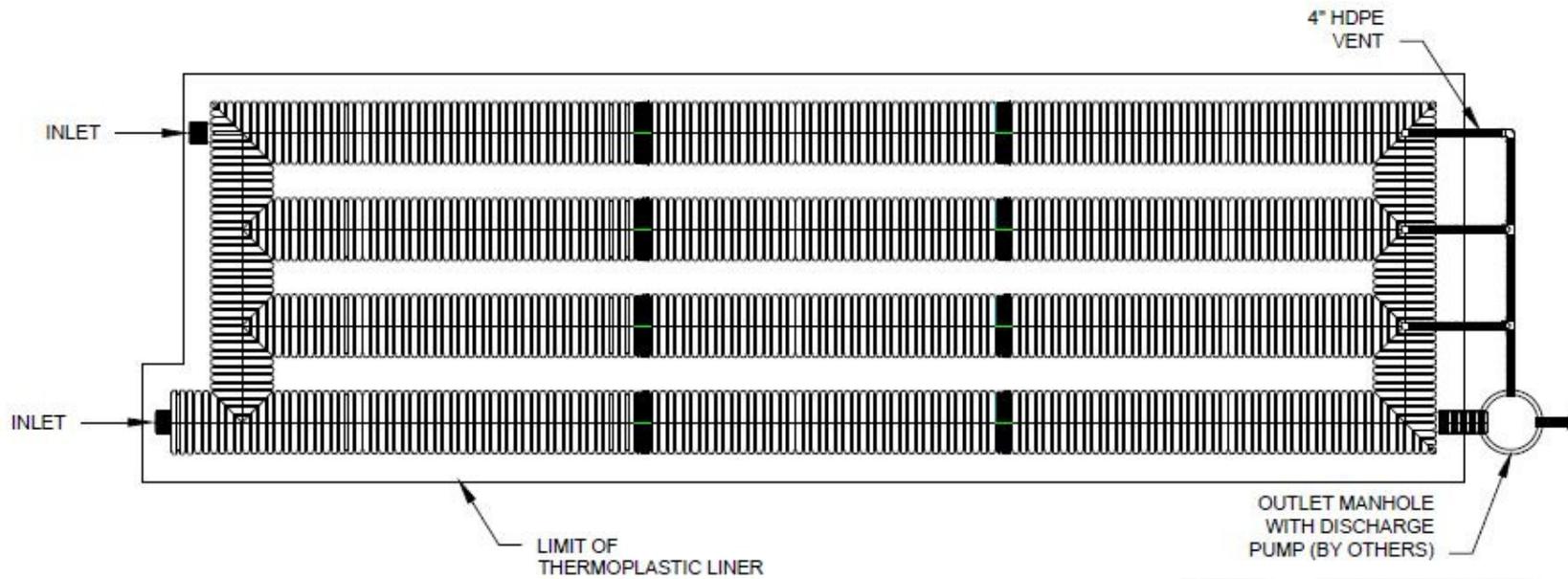


Increase subsurface pipe sizes for increased capacity in system

Underground Storage

- Use existing park space for underground storage
- Retain functionality of park – ball fields
- Add perimeter trees

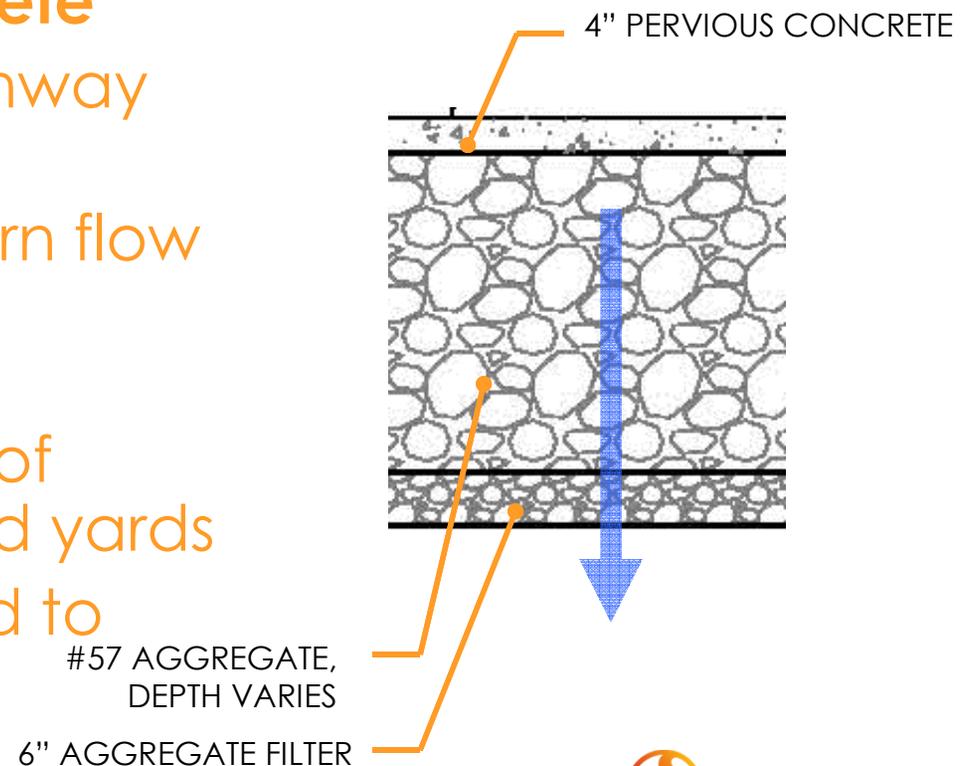




Green Infrastructure Pervious Sidewalks

Replace sidewalks in project area with pervious concrete

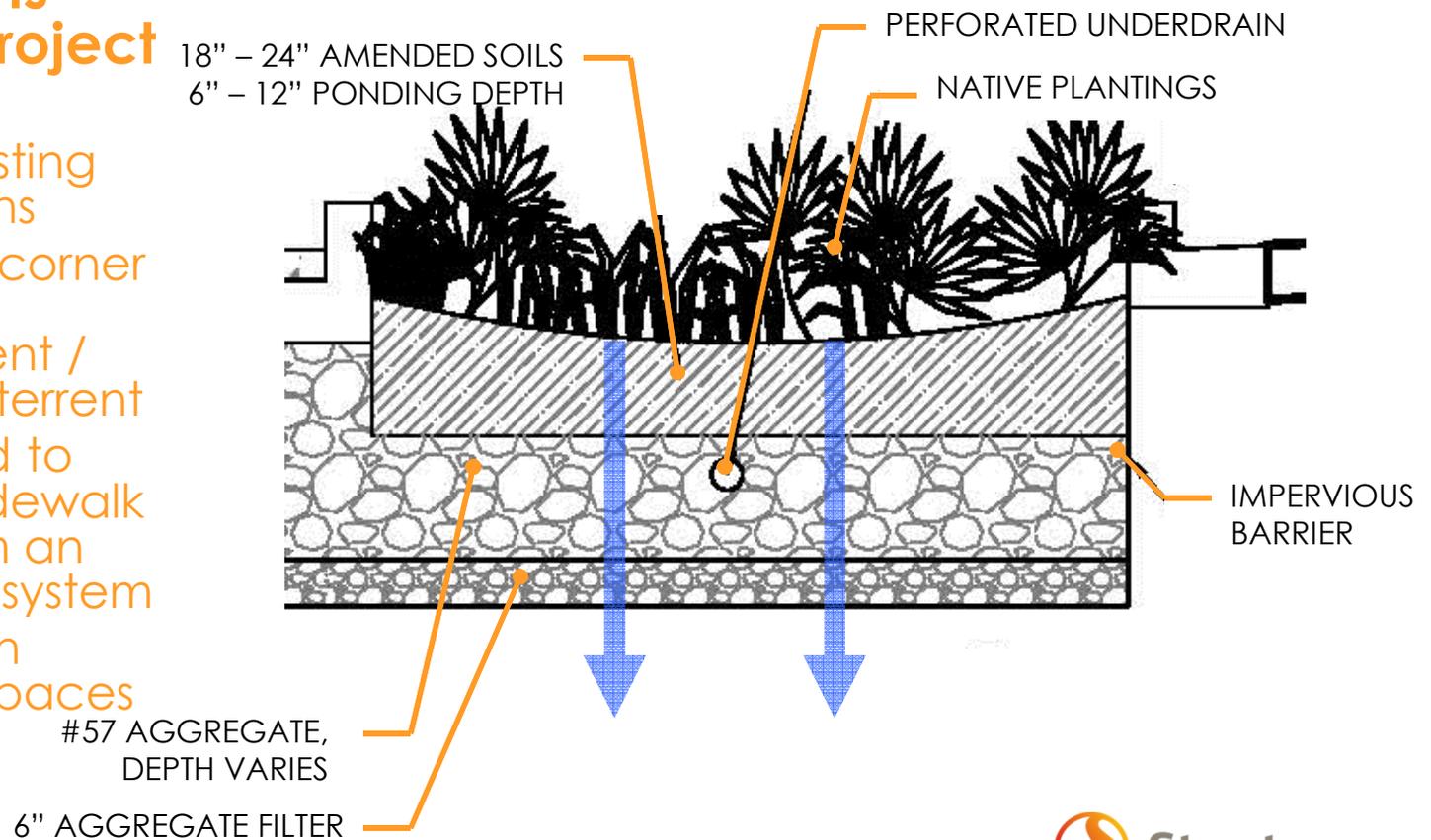
- Already in use in Greenway Project
- Potential to retain/return flow to ground instead of converting it to runoff
- Intercept flows from roof leaders, driveways, and yards
- Create a recharge grid to address subsidence



Green Infrastructure Rain Gardens

Rain gardens at key locations within the project area

- Around existing catch basins
- As a street corner landscape improvement / parking deterrent
- Connected to pervious sidewalk grid to form an integrated system
- Add trees in available spaces



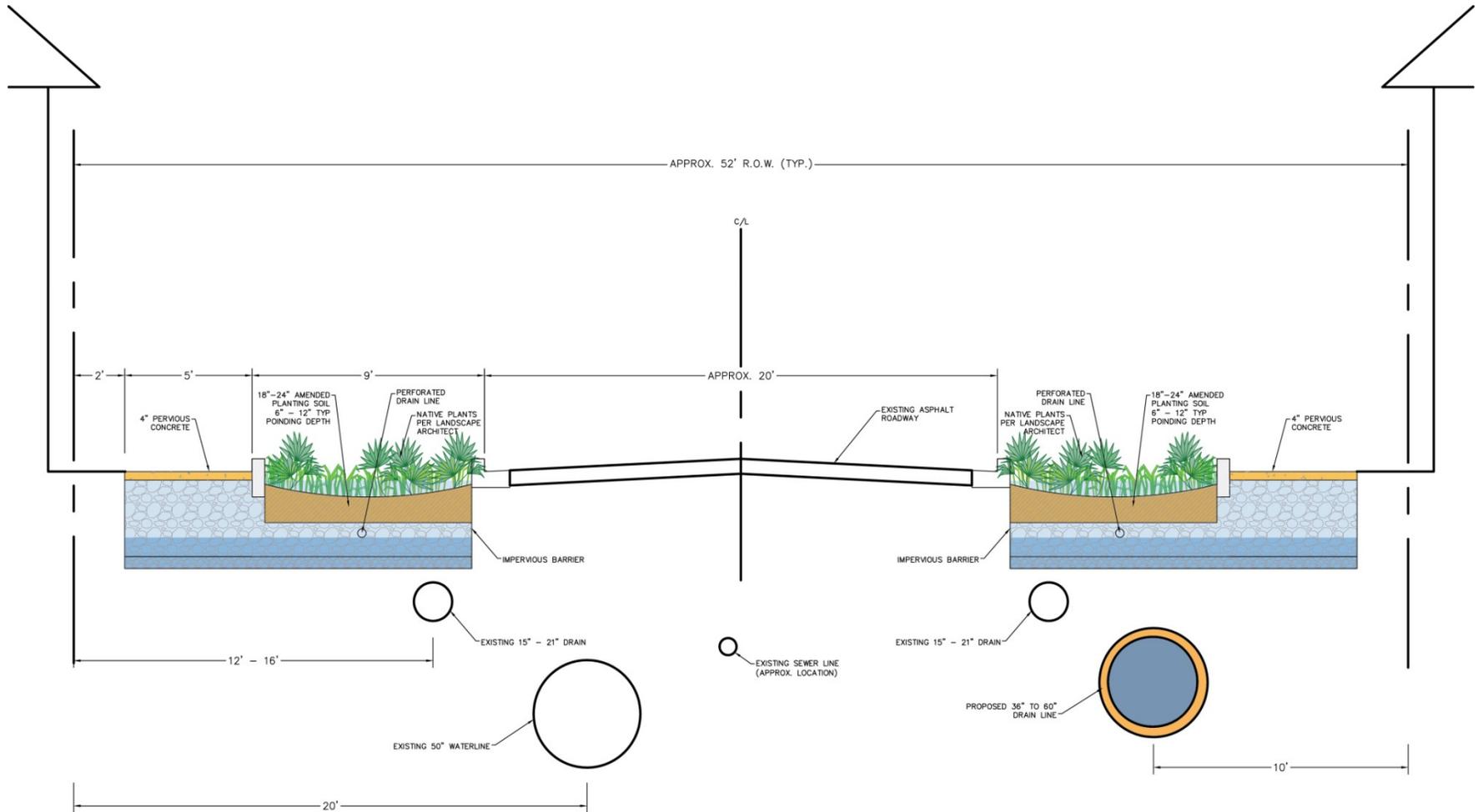
Rain Gardens





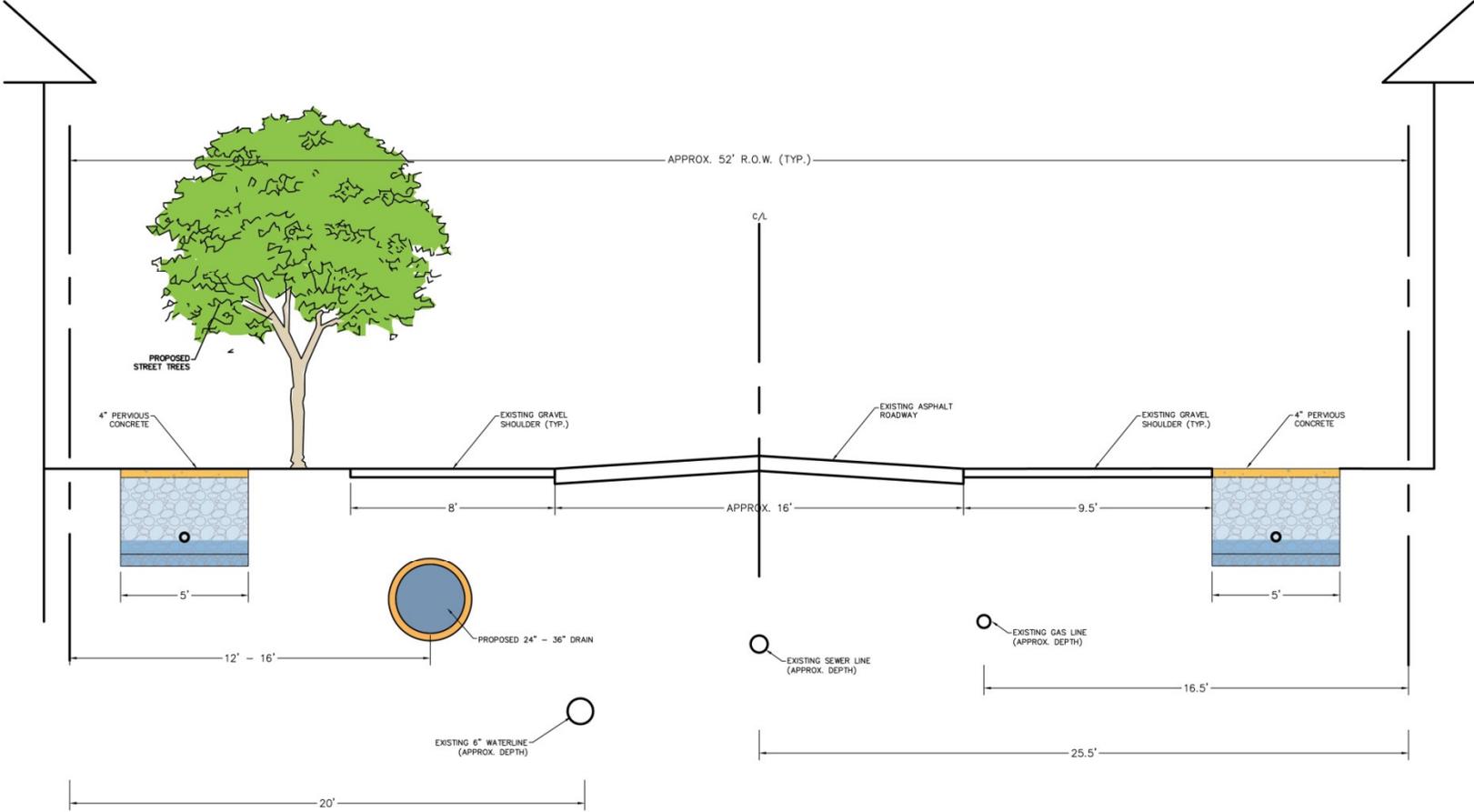


Typical Cross Section



Corner Section

Typical Cross Section



Mid-Block Section

Existing Trees & Parking



GI – Plant List

- **Performance**

- Evapotranspiration
- Complex root systems to aid infiltration

- **Maintenance**

- Tolerant of standing water & drought
- Shade out weeds

- **Public Acceptance**

- Not messy or reedy
- Ideally flowering
- Evergreen



Sweetbay
Magnolia



Bald
Cypress



Gulf
Muhly



Louisiana
Iris



Butterfly
Iris



Asian
Jasmine



Dwarf
Palmetto



Stokes'
Aster



Turkey
Tangle
'Frog Foot'

Hydraulic Results



Project Site Area – 32.9 Acres

2 Year / 24 Hour Storm Event – 6.0”

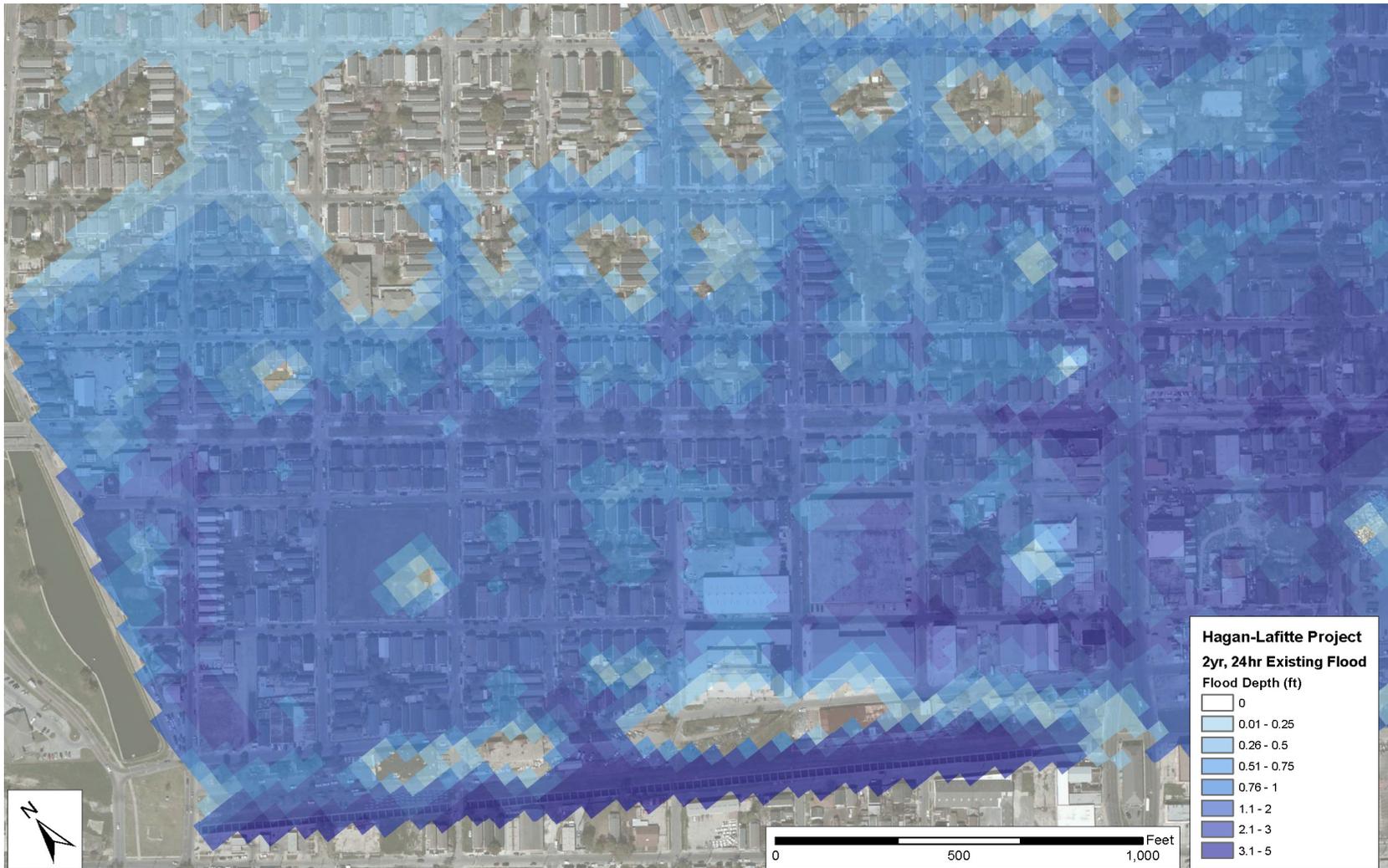
- Volume 5.35 MG

10 Year / 24 Hour Storm Event -9.2”

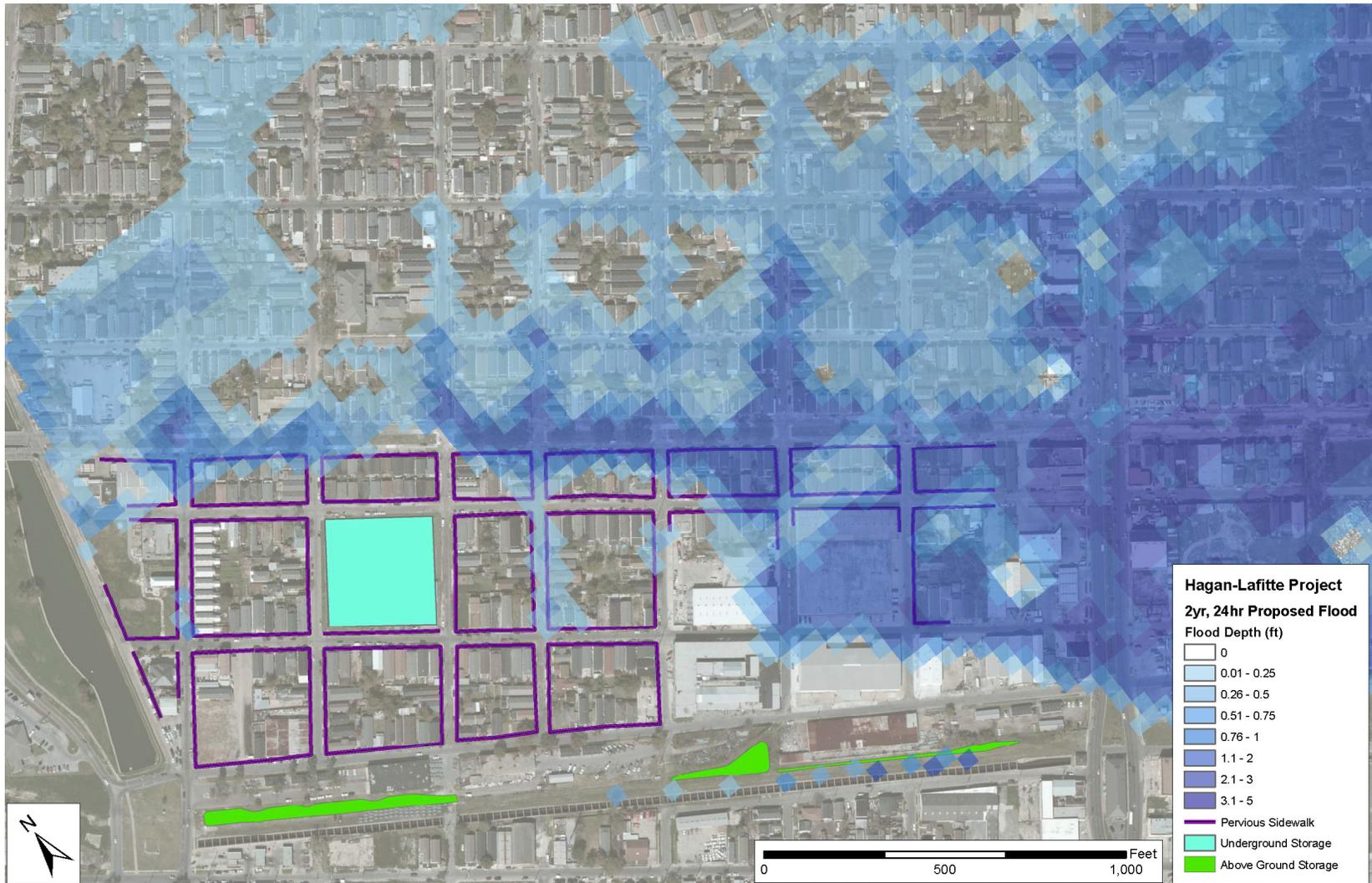
- Volume 8.21 MG

Park Storage 1.5 MG or 1.7” over project site area

Existing Flooding Map – 2 year



Proposed Flooding Map – 2 year



Next Steps

Design through May 2017

Utility coordination with SWBNO and Entergy

Modeling and concept refinement

Constructability reviews

Coordination with Capital Improvements Program

Construction: October 2017

Estimated construction- Total - 9 Months

Includes 3 months at Park

Discussion

Thank You!

Project Manager

Dan Grandal, PE, CFM, LEED AP
1615 Poydras Street Suite 850,
New Orleans, LA 70112-1241
Phone: (504) 322-3050 Ext. 109
Cell: (305) 332-1379
dan.grandal@stantec.com

